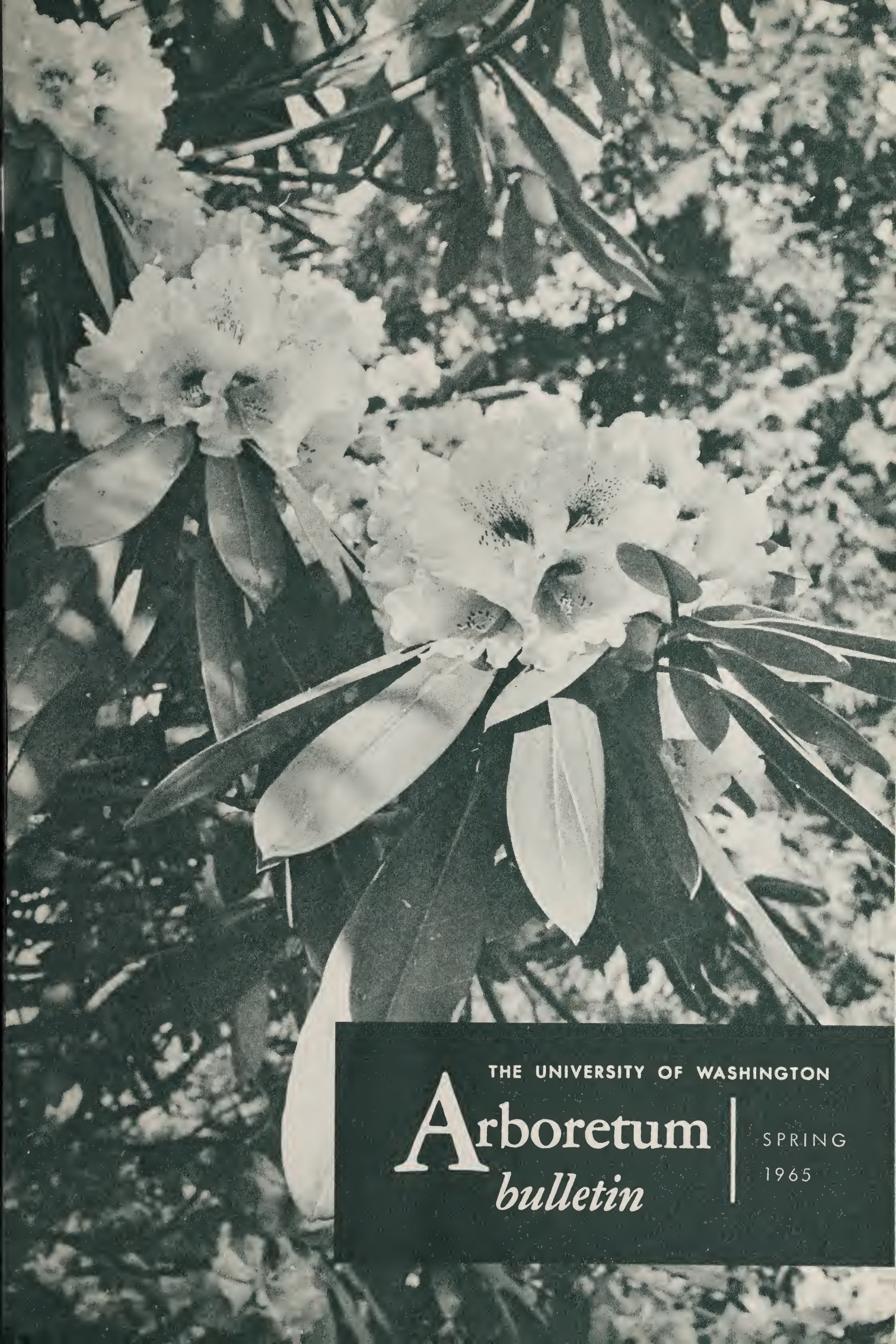

THE UNIVERSITY OF WASHINGTON

Arboretum bulletin

SPRING 1965

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Arboretum bulletin

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COVER PHOTO:

Rhododendron sutchuenense
Var. *Geraldii*

PHOTO BY: B. O. MULLIGAN

The Arboretum; Fall & Winter, 1964-65

B. O. Mulligan

Besides the normal routine maintenance work during these months we have also found time to do some other useful tasks. Probably that most evident to our visitors this year will be the reconstruction of two flights of wooden steps in Rhododendron Glen, one on the south bank, the other on the northeast side. In addition, two new flights were built down the steep bank above the Ostbo memorial rhododendron planting, making it more accessible from the upper trail. Used railroad ties were employed instead of western red cedar logs as previously, and should last much longer.

In the shrubby honeysuckle *(Lonicera)* collection between Azalea Way and the Boulevard, planted 1947-48, we removed 36 large plants which had little ornamental value, thus providing space for other plants of better quality, including some birches and swamp cypresses in the wetter areas.

About 45 unwanted or dying trees were removed in various places, chiefly native Oregon maples *(Acer macrophyllum)* which had originally been damaged by the early freeze in November 1955 and had been dying slowly ever since. A very large native ash *(Fraxinus latifolia)* by the north entrance was also taken down because of its dangerous condition, and a horse-chestnut on the rocky bank east of the Japanese garden which was both blocking the view up the hillside and also shading the plantings beneath.

Within the garden several new benches have been placed, a gift from the Arboretum Foundation, while the steel mesh fencing at the north end has recently been covered by woven bamboo screen 6 ft. high. The beautiful tall stone lantern selected in Japan by Mr. Juki Iida and given as a memorial by his relatives and friends to the late Carl M. Ballard was set up close to the north entrance in August 1964. The appearance of the bank at the north end and also the southwestern part of the garden was much improved by a thick mulch of mixed wood shavings and stable manure, which will also benefit the plants growing there.

Young trees of crab apples, hawthorns and others along the Boulevard were again pruned early this year, as well as the shrubby dogwoods *(Cornus* species) around the parking lot just north of the East Lynn Street footbridge. A small new bed for heathers was made on the bank beside Arboretum Drive immediately north of the rock garden. The steep, overgrown bank behind (east of) the stone cottage was considerably improved in February by thinning out the trees and pruning the common laurels growing there. The Japanese spring cherries along Azalea Way, especially the many forms of *Prunus subhirtella* which had been systematically pruned of their dead wood last summer, were sprayed with Bordeaux mixture early in February in an endeavour to control the bacterial blight which has attacked them. Approximately sixty new printed signs 4 x 5 in., on two-inch aluminum pipe stakes, have been set out along Azalea Way, in Loderi Valley and Woodland Garden; others will follow soon.

New Plantings

In the small new heather bed already mentioned some seventy plants of five kinds, both winter and summer flowering, were planted in November and seem to have wintered well.

The young pines, of seven kinds, were added to those already growing on Foster's Island; they included the Japanese *P. parviflora* and the natural hybrid from Massachusetts between this and the eastern U.S. white pine, named *P. Hunnewellii.* On the low wall behind the east greenhouse addi-

tional dwarf conifers have been placed, interplanted with various heathers. A permanent home for our extensive and growing collection of the former plants is still in the future, though much needed at the present time.

To replace part of the eliminated honeysuckles we planted four other species, totalling ten plants, during January; some of these were raised from seeds received from the U.S.S.R., Kashmir, and Holland, so our sources are widespread. Of birches we added five kinds, totalling eleven plants; one was of Japanese origin *(B. grossa).* Along Azalea Way or on the south slope of Rhododendron Glen sixteen more cherries have been planted, of eight kinds, mostly Chinese or Japanese; in due course they should add more charm and color to our spring and fall displays.

One other genus to which additions have recently been made are the buckeyes *(Aesculus),* growing on the slope above the south end of Azalea Way, where we placed ten more plants of six different kinds, including the Californian, the red *(A. Pavia),* and the North Carolina species *A. neglecta,* of which we received seeds in 1955 from Ohio.

Between October 1, 1964 and February 15, 1965, 412 plants of 197 different kinds were placed in the Arboretum; of these 49 plants were conifers,—nearly 12% of the total number.

Recent Acquisitions

(a) *Seeds*

A number of unusual or interesting items has been received during the last four months of 1964 and early in 1965, chiefly from overseas. Amongst them must be mentioned *Abies Kawakamii* and *Gaultheria Cumingiana* from Taiwan,—the former the sole representative of its genus in that island, the latter one of only two species. So far as we know neither is in cultivation at the present time in the U.S.A., but we expect now that they soon will be. *Cedrus brevifolia,* a native of Cyprus, is also an extremely rare tree in arboreta or gardens; of this we received seeds from France last October and hope we may succeed in raising plants from them. At the same time a consignment of the western dogwood *(Cornus Nuttallii)* reached us which had been collected in western Idaho and should therefore be a hardier strain than our own, useful in colder areas in the east. From a forestry research station in northern Italy we received a generous package of the Italian alder *(Alnus cordata),* perhaps the most ornamental species in this usually rather unattractive genus, and one which has thrived here for fifteen years. We intend trying it on a larger scale. When the quantity received was sufficient we distributed several of these acquisitions to other similar institutions for trial purposes.

(b) *Plants*

Those purchased included seven of the famous Saunders' peonies, from Clinton, N.Y., raised by the late Prof. A. P. Saunders, and four choice hybrid rhododendrons from an Oregon grower. Amongst donations or exchanges was a collection of twelve new hybrid rhododendrons from Mr. C. S. Seabrooks, Puyallup, Washington; thirteen dwarf conifers from the National Arboretum, Washington, D.C.; sixteen young trees or shrubs—half of them conifers—from the Morris Arboretum, Philadelphia; five kinds of birches from the University of Grenoble, France, and cuttings of three more forms of the hybrid *Cupressocyparis Leylandii* from the Forestry Commission Research Station in England. This last tree has grown rapidly here since 1950 and promises to be of great value for screening purposes.

Numerous other small but potentially valuable gifts of all kinds of plant material have been received from many sources, all of which we are duly grateful. The total number of such acquisitions in 1964 was 654; in 1963, 662; in 1962, 726.

(c) *Books*

The library has also benefited notably in recent months, by generous donations as well as purchases.

Amongst the former an outstanding example is *Plantae Asiaticae Rariores,* by N.

Wallich, two volumes, large folio, with 295 hand-colored plates, published in London, 1830-32, given to us by Mr. Prentice Bloedel, Bainbridge Island, Washington. The two volume work, *illustrations of the New Zealand Flora,* by T. F. Cheeseman, (Wellington, N.Z., 1914) also came to us from the same most helpful source.

The Flora of Missouri, by J. A. Steyermark, (Iowa State University Press, Ames, Iowa, 1963), the 2nd edition of the *Flora Laurentienne,* by Fr. Marie-Victorin, (University de Montreal, 1964), the 2nd edition of *Die Nadelgeholze,* by Gerd Krussmann, (Paul Parey, Berlin, 1960), and *Seaside Plants of the World,* by E. A. Menninger, (New York, 1964), have all been purchased with funds given by Arboretum Units #8 (Krussmann & Marie-Victorin), #29 (Menninger) and #48 (Steyermark). They are valuable accessions to our library shelves. One other unusual item is *Gems of Bonsai & Suiseki,* very kindly sent us by Mr. J. Kurihara of Tokyo,—a photographic record of many superb specimens of these arts exhibited in Tokyo, 1964.

Donations and Services

From Unit #12, Phyllis Ballard, for benches, $100.00; Unit #35, Raines, for labels, $150.00; Unit #43, Pi-Sam-be, for labels, $15.00; Unit #54, for labels, $50.00, and for maintenance $25.00; from Mrs. J. R. Sealey, Bellevue, $25.00.

In this category also must be recorded the hours of useful labor performed for us in the office by members of Unit #20 in transferring planting records from loose sheets to permanent books; by Unit #72 in sorting and arranging accumulated book and plant catalogues, and in checking our collection of photographs against the card file, and by Unit #24 in mounting many slides in glass covers.

The immense assistance rendered annually by Unit #25, the Overalls, led by Mrs. Kenneth E. Mead and Mrs. Walter C. Lindberg, in packeting and dispatching all requests for seeds from our exchange list to other similar institutions is also invaluable. Last year 3222 packets were thus distributed, to 161 places.

Plant Material Distributed

From September 1 to December 31, 1964, 32 consignments were sent out to other arboreta botanical gardens and correspondents in our exchange scheme; four of these went to Europe, others to California, Tennessee, Louisiana, New York ,etc. Seeds of *Quercus chrysolepis* and *Q. Kelloggii,* collected October 1964 in S. W. Oregon, were distributed immediately to eight other institutions throughout the U.S.A., as were those of the rarely cultivated *Abies Kawakamii* received from Taiwan in January this year. Plants requested included scions of some of our Japanese maples, *Magnolia Kobus* 'Wada's Memory,' and the silver leaved willow, *Salix alba* var. *sericea.*

Weather

Total rainfall for the same period measured 17.18 ins. which almost equalled the normal of 17.31 ins. However, October was much drier than usual (1.63 instead of 4.02 ins.), and November wetter (8.21 instead of 5.35 ins.). First frosts occurred November 14 and 16 (31° and 30°F.).

The effect of the cold weather between December 15 and 18 is described elsewhere by Mrs. Witt. It was followed by 1.41 ins. of rain on the 21st, and more snow between the 28th and 31st, but no further sudden drops in temperature.

Miscellaneous

Since November 21 we have been employing a number of boys, usually eight, from the Opportunities for Youth Project, Seattle, for four hours each Saturday morning on various essential tasks such as raking leaves or cleaning up overgrown areas. The boys are paid by the Project for their work; the Arboretum Foundation is helpfully underwriting the cost of supervision by one

(Continued on Page 21)

Portland's Hoyt Arboretum

Ernest E. Fischer*

Although Hoyt Arboretum may be considered as one of the "newer tree gardens" in the nation (having been established in 1928), it has the distinction of possessing one of the largest collections of gymnosperms to be found in any arboretum or botanical garden in the country. Its wooded location high in the "West Hills" of Portland and overlooking the city and four major snow-capped mountain peaks, lends itself toward the creation of a naturalistic type of arboretum. To augment this appearance, the planted specimen trees have been established among the towering firs and hemlocks. Also, most of the native shrubs, ferns and wild flowers, as well as dogwoods and madrones and other arborescent native material have been carefully preserved to further create a naturalistic effect. Once planted, the specimen trees are "on their own", receiving little or no watering, cultivation, fertilization or pruning.

The original area of 120 acres has by acquisition, trade and other means now grown to a total of 213.6 acres, of which about two-thirds have been extensively developed and planted. The remaining acreage (in part) has been designated as a "natural area" to be left in its present state. Fairview Boulevard, which more or less bisects the arboretum, makes a convenient dividing line between the gymnosperms and the angiosperms—the latter being located to the east and the gymnosperms are found to the west. Planting is done by following the data on a large master planting map which designates the location of the species to be established. While most of our trees are grown at the Park Bureau's nursery, many individuals, garden clubs and private nurseries donate a large amount of arborescent material each year.

The arboretum is operated by the Bureau of Parks and is part of the eight mile green belt extending along the "West Hills" from Council Crest to Forest Park. Since its inception there has been a lack of both manpower, material and interest in the arboretum. However, during recent years the "tree garden" has been very well patronized. This increase in patronage was partly due to the formation of tree identification classes, the popularity of our picnic area, the advent of organized tours, our Arbor Day ceremonies, the location of the new zoo adjoining us to the west, and much needed publicity from local newspapers. The manpower shortage has been somewhat alleviated by help furnished by the local welfare bureau. This much appreciated manpower is now aiding in the process of ridding the arboretum of towering firs and hemlocks as well as alders and maples.

Arbor Day in Oregon was reactivated some twelve years ago in the Arboretum and the traditional tree planting ceremonies have spread throughout the state since that time. Arboretum ceremonies on this day (the last Friday of April) finds an enthisiastic crowd of tree lovers on hand to participate in the program and lend a hand in the actual tree planting. Girl Scouts, Campfire Girls, Boy Scouts, representatives of various garden clubs, park personnel and outdoor enthusiasts all gather on this occasion. Last Arbor Day saw the largest crowd ever to congregate within the confines of the arboretum when a white oak was planted in memory of our late president. Each Arbor Day some noteworthy event is memorialized or a tree representative of some foreign nation is planted. In the latter case local citizens once native to that foreign country represented sponsor the planting. Also on Arbor Day representatives of the Portland Men's Garden Club (as has been their custom for the past ten years) plant a magnolia

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Mr. Fischer is Curator of this fine Arboretum owned by the Portland Park Department.

in the arboretum—a different species each year.

Arboretum tours are available daily from 8 to 5 except Saturdays, Sundays and holidays. The favorite tour covers a small section of the gymnosperm area and is about three-fifths of a mile in length. Along this popular route can be observed various species of firs, spruces, hemlocks, cedars, cryptomeria, gingkoes, redwoods, cedrus, arbor-vitae, cypress and metasequoia. The tour including a short talk at the fireplace in the picnic area usually takes about two hours.

During the past ten years some capital improvements of note have been made. Among these is the administration building which already is showing signs of "growing pains." This modern building with electric heat and lights, indoor plumbing and telephone replaced the original "shack" on the hill which boasted (?) a wood heating stove, light by lantern, no running water, smoke signals and many other backwoods inconveniences. Three concrete water reservoirs have been constructed on the highest points in the arboretum, and while our water pressure has been increased, these bare monstrosities do not add anything to the naturalistic beauty of the place. Also, a new road connecting us with Burnside Street about half a mile in length was graded during this period but has not as yet been surfaced.

Undoubtedly most arboreta have problems, and ours is no exception. Where formerly horseback riders used to tear up the landscaping, we now have motorcyclists doing likewise. Their attempts at hill climbing and speeding over our turfed trails not

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Englemann Spruce planted under towering Douglas Firs.
Fig. 1 Official City of Portland Photo

The Flowering Cherries

Robert A. Wearne*

The flowering cherries are members of the *Rosaceae* or Rose family of plants, and belong to the genus *Prunus*, which also includes almonds, apricots, peaches and plums, as well as the evergreens Cherry laurel and Portugal laurel.

The Japanese flowering cherries were first introduced into the United States in the latter part of the 1800's, and are a group of the most attractive and beautiful trees, useful in either large or small gardens. In the spring the trees bear a profusion of semi-double or double blossoms, colors ranging from white to delicate pink to deep rose pink, and even the pale yellow flowered variety, Ukon.

The Yoshino cherry, *Prunus yedoensis*, is the favorite of Japan, and probably best known in the United States since this is the cherry that frames the Tidal Basin in Washington, D. C. These trees were sent as a gift from the Mayor of Tokyo. These trees attain a height and spread of 25 to 30 feet. The flowers are single; when first open are pale pink, then fade to white and are carried in loose, pendant clusters. The Yoshino cherry is considered to be a hybrid, between *P. serrulata* and *P. subhirtella*, combining the floral beauty of one species and the tree form and grace of another. According to Rehder's *Manual of Cultivated Trees and Shrubs*, the Yoshino cherry is hardy to Zone V, which would make it hardy in most all sections of Washington.

Prunus sargentii is considered by many horticulturists and botanists to be the most beautiful of all the Japanese flowering cherries when in bloom, and are the hardiest and most vigorous. The foliage starts to unfold when the trees are in bloom, and the bronze-red tones of the leaves create a spectacular sight with the pink clusters of flowers.

Most of the varieties of cultivated Japanese flowering cherries are placed in the species of *Prunus serrulata*. This species, with a few exceptions, are medium size to low trees, spreading in habit, and the flowers appear slightly before or with the new foliage. The variety Amanogawa, with its erect habit of growth resembling the Lombardy poplar, belongs to this species. The flowers are double, pinkish-white, and bloom in March or April. This variety and the A Shirotae or Mt. Fuji, are hardy only in western Washington. Mt. Fuji has white, double, or semidouble flowers, blooming in March or April. The tree form differs from Amonogowa in that it is horizontal or spreading, growing to 15 feet in height, but spreading to 30 feet. This species also included the Kwanzan variety with its "V" shaped habit of growth. The Kwanzan is a vigorous tree, with pink double flowers appearing in May. Also included in this species are the varieties Gyoiko and Ukon, with the creamy white or greenish single and semidouble flowers. The varieties of this species are probably most suited for the growing climate conditions of western Washington.

The spring cherry or Higan, is classified under the species of *Prunus subhirtella*. This particular variety should be hardy quite generally throughout Washington. There is a great variation in the forms or habit of growth either with high arching or pendulous branches, and can be the most beautiful of all the flowering cherries. This species can be distinguished from other species by its slender branches or fine growth. The autumn Higan cherry has pale pink flowers, blooms in the late fall, again in February or March. This variety is only adapted to western Washington and sometimes blooms continuously throughout a mild winter. This is a slow growing tree,

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eventually reaching 20 to 30 feet, and has an open, spreading habit of growth.

The blooming period of the Oriental cherries can be extended into late spring with Shirofugan, a *Prunus serrulata* variety with white flowers, or with Fukubana, a *Prunus subhirtella* variety with double pink flowers. These varieties bloom in April or May when other varieties are about through.

The Weeping Higan, like the Weeping Fukubana, is a beautiful exotic variety and is hardy throughout Washington. This tree grows 15 to 20 feet in height; has double pink blossoms that come in April.

There are a number of other cherry species that are worthy of a place in our gardens. *Prunus serrula,* Birchbark cherry, has flaky bark that is glossy and mahogany colored. *Prunus maximowiczi,* the Miyama cherry, has attractive fall foliage coloring. The Manchu, or Naning cherry, *Prunus Tomentosa,* produces edible fruits similar to *Prunus cerasus,* the well known sour cherry. The fruit ranges in color from orange to red, and sometimes white.

The site or location selected for flowering cherries should be sunny and the soil should be sandy and well drained. If the soil is heavy or the drainage is poor, artificial drainage must be provided to a depth of at least five feet. Flowering cherries have been planted in locations where the drainage is poor, and have grown for several years, but on these sites the trees will die suddenly. If the site is poorly drained and good drainage cannot be established, then don't plant flowering cherries.

Certain branches in the flowering cherries will be selected as the permanent or scaffold branches. This selection is done while the trees are small, but if branches

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Prunus Yedoensis group on south bank of Rhododendron Glen.
Fig. 2 Photo by: E. F. Marten

Winter Damage, 1964-65

J. A. Witt

Things might be worse! As it now appears at the end of February the bitterly cold winter of 1964-65 didn't really materialize. Although December, 1964, had a killing cold period about the middle of the month, January and February 1965 were on the mild side—comparable to the past several years.

As noted in this last issue of this Bulletin (Winter 1964, p. 104), we had three days during which the maximum temperature was at or below freezing and the minimum temperature recorded was 11°F., or 21 degrees of frost. This was accompanied by a strong and dissecting north wind. There was a light snow cover but nowhere in the Arboretum was it more than two inches deep and in several areas hardly any cover at all. These conditions add up to plant killing weather and if it were not that the cold occurred after most plants had hardened off we should have suffered much more than we did.

Naturally it was the evergreens, both needle and broad-leaved, that bore the brunt of the drying wind and searing cold of those December days. One could almost see the more tender plants burn under those conditions. The acacias for instance, planted on walls around the offices and greenhouse were quite obviously hurt before the cold finally broke. Amusingly enough, the curled leaves of the various Rhododendrons seemed to alarm many of the gardeners who called us for advice, yet it was this protective measure of reducing leaf surface that allowed the Rhododendrons to escape with less serious damage than might have been expected.

As is usual with this type of cold weather there were some interesting anomalies observed among the injured and uninjured plants. The same species or variety would show strikingly different reactions to the cold even though the plants might be only a few feet apart. A good example of this can be seen in the Asiatic maple section. Here our original specimen of a Japanese evergreen shrub, *Illicium anisatum*, is growing next to a well established cutting of it, planted in 1959. The cutting appears dead, the original plant didn't have a leaf burned. A surprising number of *Camellia japonica* clones had their foliage burned or discolored. Closer investigation revealed that with perhaps one or two exceptions those damaged were those we received from the University of California Botanic Garden in 1956. Even after eight years they had not become acclimated. 'Apple Blossom' again showed that it is not as hardy as most forms of *C. japonica*, although not severely burned.

With certain species a little overhead protection made a very considerable difference in the cold damage. This shows up nicely in the winter garden where the *Sarcococca Hookeriana* var. *digyna* which were growing under the questionable protection of the bare limbs of a large native cherry were only slightly damaged while those close by but open to the sky were nearly defoliated.

Although it is difficult to credit such a cold spell with any good, it did serve to test some plants about whose hardiness we had some question. A number of these doubtful ones came through in much better condition than we had any reason to hope. Among the most outstanding of these were: *Camellia reticulata*, both in the camellia collection and the lath-house; *Michelia compressa*, a Japanese evergreen related to the magnolias; *Ribes laurifolium* an evergreen, winter flowering currant from Western China, both in the lath house and near a wall which flowered normally in February; *Fremontia napensis*, the Napa County flannel-bush planted against a south wall; most, but not all, of the *Cu-*

pressus species including *C. glabra, C. Forbesii* (slightly burned), *C. pygmaea,* and *C. funebris. C. lusitanica* was more severely affected but should recover.

On the debit side most of the *Pyracantha* species and clones, many evergreen cotoneasters, many evergreen azaleas, all but a few *Ceanothus, Eucalyptus, Hebe,* and most large leaved Rhododendrons of the *Grande and Falconeri* series except *R. rex* were quite badly burned, the degree of damage yet to be determined. It is too early yet to make a complete assessment of which plants were severely cut back and which lost only young growth and/or leaves. We learned in 1956 not to be too quick in condemming a miserable looking specimen to the compost pile. All too often shrubs that appeared a complete loss in March were making a good recovery in July. Below is a partial list of some of the other trees or shrubs which were affected by the 11°F. cold and the north or east winds.

Severe foliage and new growth damage with probable damage to older wood.

Acer oblongum
Aristotella chilensis
Azara dentata
— *microphylla*
Callitris gracilis
Ceanothus species, varieties & hybrids
Cistus species and varieties
Clematis Armandii
Cornus capitata
Crinodendron Hookerianum
Drimys lanceolata
Escallonia species & varieties
Eucalyptus species
Eucryphia cordifolia
— *lucida*
Fatshedera Lizei
Gaultheria fragrantissima
— *nummularioides*
— *rupestris*
— *semi-infera*
— *tetramera*
— *Wardii*
Mahonia lomariifolia
Maytenus boaria
Nothofagus cliffortiodes
Olearia species
Pernettia ciliata
Pieris formosa
— — var. *Forrestii*
Raphiolepis spp.
Rhododendron Beanianum
— *bullatum*
— *Grande* series (many)
— *Maddenii* series (most)
— *spiciferum*
— *triflorum*
Vaccinium Delavayi
— *glauco-album*

Moderate to severe leaf burn, probably some bud and new wood damage.

Arctostaphylos densiflora and varieties
Camellia japonica, many clones lost flower buds
Chamaecyparis taiwanensis
Colletia cruciata
Embothrium coccineum
Erica umbellata
Ilex chinensis
— *vomitoria* var. *xanthocarpa*
Itea ilicifolia
Ligustrum sempervirens
Pernettya mucronata
Pileostegia viburnoides
Pinus patula
Pittosporum Tobira
Quercus suber
Rhododendron arizelum
— *Davidsonianum*
— *heliolepis*
— *lacteum*
— *micromeres*
— *patulum*
— *uvarifolium*
Rosmarinus officinalis 'Lockwood'
Sarcococca confusa
— *Hookeriana* var. *digyna*
— *ruscifolia*

Some Recent Rhododendron Hybrids From the Pacific Northwest

Donald K. McClure*

Any effort to appraise "new" rhododendron hybrids poses numerous problems. For one thing, plant breeders both here and abroad have produced almost an endless succession of plants. For another, the great majority of these plants rely for their attractive qualities on parents of not-too-great-hardiness. For still another, they have not been grown sufficiently in this area to permit accurate evaluation of garden merit. Perhaps worst of all, to most gardeners "newness" is judged in terms of unfamiliarity rather than time of origination.

Undoubtedly, the most frequently employed yardstick is that of awards already received. From his experience as Awards Chairman of the American Rhododendron Society for the Seattle area, and the Registrar of Plant Awards for that group for the entire country, the writer has become cautious about placing implicit faith in this type of selection. The Preliminary Award of the American Rhododendron Society is intended to inspire the breeder of a particular plant to proceed with the propagation of his prize. It is expected that before a sufficient stock is accumulated and distribution is possible, time will confirm its beauty and prove its behavior. In this case, a higher award will be given, either an Award of Excellence, or better, a Test Garden Certificate. These will represent a considerable testimonial of value.

It must also be remembered that American awards may have a geographical factor. If a plant is produced in the east or midwest which represents something superior in its particular environment, a local committee of competent judges will commend it. No desire is here implied to belittle plants from less favorable climates, but it must be remembered that these will many times not have the brilliance and charm of those produced in our much milder surroundings. Consider that our recent cold spell would have gone unnoticed in some other sections, and think of the damage it has apparently done here. This makes the point fairly obvious.

The writer is not well acquainted with the basis on which the Royal Horticultural Society confers its awards of Merit and First Class Certificates. Advances in plant breeding have certainly relegated many of these awards in past years to a position of historical interest. Certainly they are not intended to be a measure of durability in the garden. Should be believe otherwise, look now at plants of 'Lady Primrose' or 'Mariloo', which spent last December in other than a warm sheltered position.

This matter of resistance to cold poses a particular problem to growers of rhododendrons in this area. To repeat, virtually all newer hybrids depend for beauty to some degree on parents of limited hardiness. Careful breeding does much to minimize this problem, but many of the best made crosses are not going to be able to withstand the five to ten year cycle of zero to ten degrees winter weather which we experience. Think of January, 1950, November of 1955, and December, 1964. Rhododendrons as plants require too many years to mature to permit growing them, so to speak, between periods of disaster. For example, 'C.I.S.' was awarded a Primary Award, and promised a great future. Today, my plants are a shambles, and I refuse to contemplate the project of growing them

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*Mr. McClure is a past president of the Seattle Chapter American Rhododendron Society and has helped stage many of its annual shows.

back in time to be cut down by the next Arctic blast in, say, about 1971.

That is the way we learn, and fortunately all results are not negative. There are many fine new plants, a few of which I would submit for your consideration. For this list, I have sought the assistance of Bob Comerford of Marion, Oregon, and am very grateful for his help. He suggests the following:

	Raiser	Parentage	Color
'Blue Jay'	Hjalmer Larson	Ponticum Seedling	Bluish purple
'Anna Rose Whitney' P. A. 1954	William Whitney	'Countess of Derby' × *Griersonianum*	Pink
'Carolyn Grace' A. E. 1960	George Grace	Wardii hybrid	Chartreuse
'Cary Ann' P. A. 1961	Arthur Wright	'Corona' × 'Vulcan'	Coral red
'Cotton Candy'	John Henny	Loderin 'Venus' × 'Marinus Koster'	Pink
'Evening Glow'	Van Veen	Discolor × 'Fabia'	Yellowish
'Leo' A. M. 1948	Rothschild	'Britannia' × *Elliottii*	Red of great substance

I would add to his recommendation of 'Anna Rose Whitney', inasmuch as it is one of my favorites, with a huge well-formed truss of many flowers. It shows not one bit of damage from this winter. It does seem to bloom well for me only every other year, though.

Halfdan Lem has produced so many plants that to select is painful. My experience and cold weather indicate the following without reservation:

	Parentage	Color
'Walloper'	'Anna' × 'Marinus Koster'	Pink or red form
'Cameo' P. A. 1962	'Dido' × 'Anna'	Apricot
'Replet'	*Forrestii* var. Chamae × 'Letty Edwards'	Pinkish to ivory

I must set forth my profound thanks that 'Cameo', as beautiful a plant as I ever expect to see, seems to be very hardy. This is of course the first difficult winter I have shared with it, and it showns no sign of damage. Its only disadvantage is that for some time the best propagation efforts will be able to supply only a fraction of the demand. 'Walloper' has generally passed without award and without too much notice. I find it a spectacular flower and truss and apparently able to withstand anything. I prefer the red form and Lem favors the pink one.

The collection of the late Endre Ostbo has produced many plants well known to Seattle gardeners. The fact that I single out 'Edward Dunn' is not exclusive, but rather an attempt at high tribute to a great rhododendron grower. The cross is said to be *Dichroanthum*-neriiflorum × *Discolor*. The flower color is yellow shaded with pink. The foliage is good and garden behavior above approach. It has received the Preliminary Award and my three above zero weather didn't faze it.

Hjalmer Larson, of Tacoma, is another grower who has developed plants beyond the capacity of this article to evaluate. One paritcular plant, from the cross of 'Fusilier' × *strigillosum* has been named 'Etta Burroughs'. I have sister plants of the clone in my garden and they constitute the best early reds I have grown. Mine are both

(Continued on Page 24)

Controlling Garden Insects

I. Root weevils (*Brachyrhinus* and *Dyslobus* spp.)

H. J. Heikkenen*

The root weevils (*Brachyrhinus* and *Dyslobus*) are serious economic pests affecting the commercial production of strawberries in the Pacific Northwest, and are also considered pests in nurseries and home gardens. These root weevils are omnivorous. In addition to being serious pests of strawberries, considerable damage has occurred to raspberry, cranberry, and flowering shrubs (Wilcox, et al., 1934). Forest nurseries have also been seriously damaged; feeding has occurred in pines, hemlock, cedar, spruce, juniper and maple seedlings. The adults may also be a nuisance in the fall when they occasionally enter homes.

The most common pest is the strawberry root weevil (*Brachyrhinus ovatus L.*). There are three other *Brachyrhinus* weevils usually associated with, and similar in habit to the strawberry root weevil in the Pacific Northwest: the black vine weevil (*B. sulcatus* Fabr.), the rough strawberry root weevil (*B.* rugosostriatus Goeze.), and the clay-colored weevil (*B. singularis* L.).

There are also native strawberry weevils found in association with the *Brachyrhinus* spp.; these are the decorated strawberry root-weevil (*Dyslobus decoratus* Lec.), the Lacomb strawberry root-weevil (*D. wilcoxi* Van Dyke), and the western strawberry root-weevil (*D. ursihus* Horn.).

The *Brachyrhinus* and *Dyslobus* weevils are small beetles (about 1/5 to 2/5 inch in length) with mouthparts modified into a downward-curving beak or snout (Fig. 1). The adult *Brachyrhinus* are shiny, ranging from brown to black without body scales. The *Dyslobus* weevils are grayish-brown and covered with small scales that reflect a metallic copper or brass color. The larvae are legless grubs (about 3/8 inch in length), with a light brown head and a white body usually held in a curved position (Campbell and Taylor, 1962).

The *Brachyrhinus* weevils overwinter in both the larval and adult stages but usually pass the winter as grubs among plant roots. Larval feeding continues with the warm weather of spring, and pupation occurs in the soil during May and June. The adults emerge shortly afterwards. The females are alleged to be parthenogenic, with a fecundity of 298 and incapable of flight. Oviposition is on the soil, occurring throughout the summer. The eggs hatch within a few weeks, and the young larvae bore into the soil.

The life history of the *Dyslobus* weevils differs in that the adults overwinter in the ground.

The strawberry root weevils damage plants during both the larval and adult feeding periods. The young grubs feed on plant rootlets and older grubs infest roots and root crowns. Adult feeding is negligible, being confined to the edges of leaves and the fruit.

The control techniques for this insect have paralleled the development of insecticidies. During the 1920's control efforts involved placing poisoned baits in attractants for the adults (arsenicals mixed in powdered apples/or sugared bran). The poisoned baits were applied around the root crown during the emergence of the adults, usually May and June for *Brachyrhinus* and April for *Dyslobus*. During the 1930's arsenicals in water were sprayed on

*Dr. H. J. Heikkenen, Assistant Professor of Forest Entomology, College of Forestry, Univeristy of Washington.

the foliage to control the adults. These baits and sprays were costly and not too effective.

Following World War II, control efforts shifted to the larval stage in the soil. Recent experiments have found that aldrin and heptachlor mixed into the soil were effective for 5 years (Breakey, 1959).

The present control technique recommended by the U.S. Department of Agriculture (Reed and Doolittle, 1963) is:

> "Apply a 5-percent chlordane dust or spray No. 7* before plants begin to bloom and again after harvest. In preparing new beds, treat soil with chlordane, as recommended for white grubs. Commercial poison baits, available in some areas, are often effective against adults"

The control of white grubs is:

> "Grassland is likely to be infested with white grubs; avoid planting vegetables in newly plowed grasslands. Treat surface of infested soil with 1/4 pound of chlordane per 1,000 square feet. To obtain this dosage, mix 1/2 pound of 50-percent chlordane wettable powder in about 2 1/2 gallons of water; or use about 2 pounds of a 10-percent chlordane dust. CAUTION: Do not apply excessive amounts of chlordane to soil. Do not apply chlordane to foliage that is to be eaten."

Control of the root weevils is not difficult: infestations are patchy and spread slowly; present insecticides properly used are effective and economically feasible; and professional advice is available from the county agricultural extension agent (Heikkenen, 1964).

*Spray No. 7—Chlordane

40 or 50 percent wettable powder	1 1/2 level tablespoons
Water	1 gallon

or

45-percent chlordane emulsifiable concentrate	1 tablespoon
Water	1 gallon

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The adult strawberry root weevil (*Brachyrhinus Ovatus L.*), a serious pest of strawberries and home gardens in the Pacific Northwest.

Fig. 3 University of Washington photo

Gardens and Fertilizers in Western Washington

S. P. Gessel

This is the concluding article in a series of three with the objective of calling attention to common elemental deficiencies in western Washington soils and means of correcting them. In the previous article the elements nitrogen, phosphorus, and potassium were discussed. This discussion will consider the remainder of the commonly accepted essential elements.

Calcium:

Calcium is not only found in fairly large quantities in most plant tissue but also serves to modify the acidity of soils. In this way it may have a profound effect on soil tilth and soil microbiological populations. Because of the climate of western Washington, most of our soils tend to be acid in reaction; therefore, the use of some calcium compounds to change soil acidity is emphasized. On the other hand one should recognize that despite being acid in reaction, many of our soils do contain and supply sufficient calcium for most plants. Most gardeners also know that some plants prefer acid soils; therefore, application of calcium, in the form of limestone, should be avoided. The secondary affects on availability of other elements brought on by wide changes in acidity resulting from limestone application may be critical in the life of some plants.

Calcium is most generally sold in the form of ground limestone, largely calcium carbonate. In some cases magnesium may also be present, in which case it is called dolomitic limestone. It may also be applied in the form of gypsum or calcium sulfate. This tends to be an acidifying agent and is, therefore, useful for those plants needing acid soils. Calcium is also present in some other common fertilizers, particularly the phosphates.

The calcium-magnesium ratio in soils may be of importance. Soils formed from serpentine parent materials usually have a high magnesium content relative to the calcium content. This causes certain nutrition problems for plants other than those endemic to such areas. In general, proper maintenance of the ratio is not a problem in our garden soils if normal recommendations are followed.

Magnesium:

Magnesium is needed in fairly large amounts by most plants but not in the quantities that calcium is. Deficiency is noted in mottling of leaves, since the element functions in the chlorophyll molecule and is, consequently related to green color in plants.

Magnesium along with calcium and potassium make up the major bases in our soils. The proper relationship among these elements in the soil and in the plant is frequently of more importance than the absolute deficiency in western Washington. This balance has already been mentioned in the case of serpentine soils.

Magnesium can easily be supplied to plants in the form of either dolomite or epsom salts (magnesium sulfate). As application rates are low, the purchase of a few pounds of technical grade epsom salts is usually sufficient. Because of the form in which it is applied and the relatively small quantities, magnesium application does not materially change soil acidity.

Sulfur and Iron:

These are both elements needed by plants but in relatively small quantities. In

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We are very grateful to Dr. Gessel for these very informative discussions, Parts I and II of which appeared in Fall and Winter 1964.

only a few instances have either of these elements been reported as being deficient in our soils under normal cultural conditions. However, circumstances could easily arise in which deficiencies would occur. In highly calcareous soils, iron deficiencies frequently develop even when iron is present in the soil. This is strictly an availability problem.

Sulfur is a component of other fertilizer materials frequently used by the gardener. These may include such materials as ammonium sulfate, gypsum, or ammonium phosphate. It is also an ingredient of some dormant sprays. In most cases these additions, plus the original soil supply, are sufficient.

Iron can be supplied in a wide variety of forms, either as solid material or as a spray. For certain soils organic forms of iron called iron chelates, are most useful. These have the advantage of being readily available to plants and, as a result, quickly taken up.

Other Micro-Elements:

The other essential elements are needed in very small quantities and are, of course, found in plant tissue in only very small amounts, usually a few parts per million. They are, therefore, referred to as micro-elements. These include copper, zinc, molybdenum, boron, and manganese. Again there seems to be little evidence that these are deficient in most western Washington garden soils. Probably the great diversity of parent materials brought in by the glaciers and other geologic agents accounts for this. However, in certain instances, particularly in highly organic soils, these elements may be deficient, and one should be aware of the possibility of micro-elemental deficiencies.

The elements can be supplied individually in various compounds and are in certain of the standard mixes such as fritted trace elements. Although deficient amounts may limit plant growth, oversupply of any of these elements can actually kill plants. Therefore, a gardener must follow the recommendation of suppliers very carefully.

In summary, I would suggest that the gardener should remember that his soil is not an accumulation of inert material. It is actually a highly active place, serving as a home not only for plants but for millions of other organisms. This teeming mass of life keeps it constantly changing, not only by seasons but every day. Most of the organisms are essential to the proper maintenance of the soil environment as a habitat for plants. Therefore, they must also be supplied with adequate material to live and function. The soil is a living, changing system which can and should be kept in the proper balance by management practices of the gardener.

Bay tree *(Laurus nobilis)* in *Cistus* collection in Arboretum.

Fig. 4 Photo by: Whitie Marten

Some of Our Favorites ☆

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Laurus Nobilis

HAPPINESS is a full stomach". What better contribution can one make towards happiness than a juicy baked salmon or a choice roast prime rib of beef flovored with the aromatic leaves of *Laurus Nobilis.*

An evergreen tree which ultimately reaches 40 feet in height, *Laurus nobilis* became famous for culinary purposes among the ancient Greeks and Romans. The leaves flavored soups, meat, jellies and wines. Uses for medicinal purposes were many. Bancke's Herbal states that "bay is good for man that may not hear, for if the juice thereof be put in his ears, it will heal". The Grete Herball recommends a bath of bay leaves is good for colic, and for the "evil color of the face, take new bay berries, pull out the hulks and make a fine powder, put it in honey and anoint or bathe the face". Bay leaves boiled in water with orange peel made a washing water and "being well smelling" were also "layde amonge clothes".

Laurus nobilis was the laurel of history and poetry, from which wreaths were made to crown the winners of the Olympic Games.

The dark, glossy green leaves are up to four inches long and are lanceolate to oval in shape. In May the small greenish-yellow or cream-colored flowers venture forth, and are followed by small black berries. A native of the Mediterranean region, it is also known as the Bay Laurel or the Sweet Bay.

Laurus nobilis is hardier than generally supposed. It can stand several degrees of frost. However, it should be planted in an area protected from severe winds—near a building, fence or with larger trees. It will thrive in spite of neglect, although it prefers rich, well-drained soil, a plentiful supply of moisture and full sun.

The slender conical outline and compact habit of growth allows frequent trimming, and it has been popular for use in topiary work. Unless a severely formal effect is desired, *Laurus nobilis* is more interesting and lovely as a free growing specimen, underplanted with the charming colorful rhododendrons, azaleas or heathers which thrive in the Pacific Northwest. Or, perhaps more appropriately, it should be planted as a focal point in an herb garden.

Laurus nobilis has not been well known in the Pacific Northwest, but thanks to a faithful friend of the Arboretum, Mrs. Frederick E. Bunge, cuttings from a tree growing at her former Bainbridge Island home were given to the Patricia Calvert Unit greenhouse for propagation. This tree grew from cuttings brought from Greece over 30 years ago.

It is interesting to note that of the 61 cuttings placed on the mist bench August 13, 1963, seven were rooted and potted on October 15, 45 on December 3 and nine on February 18, 1964. Tender, loving care fostered their growth to 10 and 12 inches by October 7, the date of the Annual Plant Sale. The sixty-one little trees sold like the proverbial "hotcakes". A delectable recipe was attached to each tree, a thoughtful addition by Mrs. Bunge.

During October and November of last year, one hundred cuttings were placed on the mist bench, of which fifty were rooted and potted on February 2. There should be an ample supply of *Laurus Nobilis* anticipating a permanent home by Plant Sale date, October 6, 1965.

To repeat a well-known proverb, "The way to a man's heart is through his stomach", and we might add, to keep the love-light glowing in his eyes, add a leaf from *Laurus nobilis.*

JOY M. (MRS. ROGER) SPURR

The Arboretum Bulletin

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To keep membership in the Arboretum Foundation in good standing, dues should be paid during the month payable. Active memberships more than three months in arrears will be dropped and The Bulletin will be discontinued.

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Dr. Henry Schmitz
1892 - 1965

The University of Washington Arboretum lost one of its most distinguished members and supporters in the death of Dr. Henry Schmitz on January 31st. He was always interested in the Arboretum and its development and, upon assuming the editorship of the Arboretum Bulletin last year, his interest increased.

Dr. Schmitz was one who loved to walk and frequently his walks took him through the Arboretum where he noted with interest new plantings and the flowering and growth habits of the many trees and shrubs.

Since his retirement he had been busy compiling the history of the College of Forestry. One of the important chapters of this history and one on which he spent a tremendous amount of time, was the one dealing with the University of Washington Arboretum. Dr. Schmitz always wanted the facts, and wanted them complete. With his usual zeal, he had traced the development of the Arboretum, searching the records of the University of Washington, the Seattle City Council, the Seattle Park Board and the Arboretum Foundation. When certain things were not clear he sought the help of knowledgeable individuals.

During his life time Dr. Schmitz received many honors. In 1949 he was named "Alumnus Summa Laude Dignatus" as the most distinguished University of Washington alumnus of the year. Also in 1949 he was the second graduate of the College of Forestry to receive the University of Washington Forester's Alumni Association "Honored Alumnus Award." From 1937 to 1942 he served as editor of the Journal of Forestry, and from 1942 to 1945 as president of the Society of American

Foresters. In 1940 he was elected a "Fellow" of the Society of American Foresters; in 1953 he received the University of Minnesota's "Builder of the Name" award for outstanding service; in 1954 he was given an honorary Doctor of Science degree from the University of Alaska; and in 1960 he was named honorary vice-chairman of the Fifth World Forestry Congress. His most recent honor was received last October when he was awarded by the Society of American Foresters its highest honor in both national and international fields: the Sir William Schlich Memorial Medal for distinguished service to the forestry profession.

Those who knew him well and worked with him will miss his kindly counsel and advice. However, he will continue to be an inspiration to all of us, and the work he pioneered will be carried on.

GORDON D. MARCKWORTH

The Flowering Cherries

(Continued from Page 8)

arise that cross or interfere with the permanent branches, they should be removed while they are young. It is the opinion of many nurserymen and horticulturists that it is harmful and detrimental to remove ripened wood from a flowering cherry. Once the flowering cherry tree is established and the permanent branches have been selected, the less pruning the better.

The oriental flowering cherries are indeed difficult to surpass as specimen plants in the home landscape. There is a size, habit of growth, time of bloom, and color of flowers that make them ideal as part of the patio area, or enhance a view of the garden, or become a part of a distant scene.

WORK AND FUN DAY

The Annual Arboretum Clean-up

WED. APRIL 21, 1965

YOU are invited to come help!

This is your Arboretum, kept alive by your support

We are pleased to welcome the following new members (December 9, 1964 through March 18, 1965): *Sponsor*—Blythe & Co. *Sustaining*—Mrs. Arthur Hugo Berg, Morley Bouck, Harold D. Johnson, Mrs. C. E. Lile, Mrs. G. W. Taylor, Mrs. Bruce Zimmerman, Columbia View Garden Club, Friendly Garden Club, Rainier Vista Garden Club. *Annual*—Mrs. Douglas M. Allen, Mrs. Ralph W. Allen, Mrs. Charles L. Altier, Mrs. M. Altshuler, Mrs. Arthur Anderson, Mrs. Stephen Bannick, Mrs. A. Gordon Bennett, Mrs. Boyd A. Bentrott, Mrs. J. F. Biehl, Mrs. Fred M. Blaser, Mrs Elizabeth Bonne, Mrs. Arthur B. Carbary, Mrs. Lowell J. Chawner, Mrs. Bud Christensen, Mrs. Robert E. Cleland, Sam T. Conover, Mrs. David L. Conrad, Mrs. R. M. Cormack, Mrs. Curt Cruver, Mr. & Mrs. Charles W. Deuter, Mrs. Virginia Duren, Mr. & Mrs. Donald R. Eliason, Mrs. James R. Ellis, Winnie Elmore, Elizabeth G. Engle, Mrs. Burke F. Gibson, Mrs. A. H. Godfrey, E. Bernice Goodwin, Mrs. Kenneth Goodwin, Mrs. J. Elton Hall, Jr., Mrs. John Hanson, Miss Gayle A. Heron, Mrs. John B. Holland, Dr. A. M. Hurley, Robert W. Hutton, Miss Louise Jackson, Mrs. Alfred B. Jepson, Mrs. Donald S. Johnson, Mrs. Carl A. Jonson, Mrs. R. D. Karsanoff, Mrs. J. L. Keating, Mrs. William S. Kogan, Mrs. Robert H. Lander, Dr. & Mrs. Robert S. Leighton, Mrs. Clifford Leimback, Mrs. John H. Luft, Mrs. T. J. Lyle, Florence C. Lynch, Mrs. Voni Madden, Mrs. William H. Maguire, Mrs. Glenn Martin, Mrs. J. B. McWhorter, Mrs. W. R. Merkle, Mrs. Richard G. Miller, Mrs. Joseph F. Moodie, Mrs. H. R. Morris, Mrs. Clair E. Niesz, Mrs. Richard E. Odell, Mrs. Arthur Olney, Mrs. M. J. Pike, Ernest Pitt, Frank A Rasmussen, Mrs. Robert E. Read, Mrs. George G. Rogge, Dr. Victor B. Scheffer, Mrs. Wesley J. Schneider, Mrs. Jack P. Scholfield, Mrs. Richard T. Scott, Mrs. J. B. Scroggs, Mrs. Leon W. Settle, Mrs. Edward L. Sherman, Mrs. Frank Sincock, Mrs. George E. Taylor, Mrs. Tom B. Thomas, Jr., Mrs. W. J. Thomason, Mrs. William Tremper, Mrs. Gordon Varey, Mrs. Jack E. Wallace, Mrs. John M. Wells, Mrs. R. F. Wenke, Mrs. John R. Wilton, Mrs. Armin O. Zahn. We are also most grateful to the following members who have increased their dues to: *Contributing*—Mrs. Austin G. Friend. *Sustaining*—Mrs. Floyd McCroskey.

BOOK REVIEW

Gardens of Italy, by Frances Margaret Macguire. M. Barrows and Company, New York (1964). Photographs by Industria Fotograficia, Filli d'amico and by Dr. Antonio Cappellotto. 216 pp., $4.95.

GARDENS OF ITALY is a delightful account of the author's visits to twenty-two of that country's most delightful gardens. It is written with a warm and sincere appreciation of the history and art of Italy as well as of the landscape architecture, that has made their gardens unlike any others in the world. Mrs. Macguire has been sensitive to the aesthetic value of these age-old plantings and through her pen each one becomes a portrait, steeped in legend and antiquity. As the wife of the Australian Ambassador to Italy she had access to some gardens not open to the public.

Most extensive and palatial are the Royal Gardens which were designed to augment the importance of their patrons. It is difficult to portray the scope and magnificence of the grounds surrounding the royal palaces. The "Italian" style of landscape design derives its origin largely from them. Where the "English" style uses color masses such as a painter does, the "Italian" style uses shadow effects, the contrast of light against dark. It has been suggested that Italian gardens are those with a firm architectural outline in which far perspectives can be seen, whereas English gardens have meandering paths, never ending but disappearing in corners and curves.

The Royal Palace and gardens at Caserta present an eminent example of classic design. Immediately in front of the palace buildings is the terrace of the grand parteere. Wide lawns to right and left with semilunes of shrubbery preserve a formal pattern. Oak, ilex, camphor and laurel trees form a grove in the background. The fountains derive their water from a source some two miles distant in the hills. A series of pools and cascades are decorated by groups of statuary, archways and grottos. The author states, "One feels something of the rhythm of the design, which, exquisite in every part, never sacrifices its main lines to an overelaboration of the detail". For the gardener interested in design, in perspective and proportion, Caserta has many lessons to teach.

The gardens at the Villa d'Este at Tivoli are called by the author water gardens, because as she states, "Water gives to the garden its predominant characteristic". Villa d'Este, with its fountains, is an outstanding example of Renaissance art and craftsmanship. Without its water it would be no different than a hundred other villas. The garden, open to the public, attracts tourists even in winter months. On summer evenings the waterways are illuminated by electric floodlighting which makes the fountains cascades of brilliant color.

The gardens of Lake Como are so famous and well known that it may be unnecessary to describe them. But one should have special recognition. The gardens of the Villa dell'Olmo are a most elegant expression of eighteenth century taste. Flower beds between th sweping lawns, making a neat pattern, are bordered by small trimmed cypresses. There is a quality of restfulness in these gardens which comes from simplicity and spaciousness. A tiny temple, which eighteenth century designers thought essential in a garden, stands against a background of fine old cedars. Villa Carlotta is an example of a garden with terraces on a steep slope. In the spring azaleas and rhododendrons cover these slopes with rich color.

The concluding chapter of this book deals with a botanic garden, developed by a Scotsman, Captain Neil McEachern. Villa Taranto, as he named it, is a magnificent, one hundred acre estate where the owner has assembled exotic and delicate shrubs from all over the world. He has planted a garden in the English style but in a climate kinder than his own country.

Gardens of Italy is provocative reading in that it creates in the reader a desire ot visit and enjoy these rare, old gardens. In somewhat philosophic vein the author writes, "The gardener works in a medium that is changing all the time and he knows that the thing he creates must change even as it leaves his hands". But he also feels a sense of gratitude that these wonderful gardens have been preserved to contribute to the colorful procession that is Italian history.

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The Arboretum; Fall & Winter, 1964-65

(Continued from Page 4)

of our staff, so we hope that this arrangement will continue into the summer, benefiting all concerned in it.

Japanese Garden Attendance

1964 42,198 1963 41,042 persons

Cost of gardener and gatekeeper over the whole year 1964 exceeded income (at 10c per head) by $388.68.

Traffic Count Outside Offices

1964 147,210 1963 123,527 vehicles

The count for October 1964 (11,775 vehicles) was the largest yet recorded for that month, no doubt due to the fine weather as well as the five week-ends.

Telephone Inquiries for Information

1964 2,223 1963 1,897

Talks and Lectures

1964 55 1963 43

Mr. Witt is currently teaching Plant identification to a class of twelve vocational agricultural teachers. 46 collections of slides were lent in 1964 to garden clubs or Arforetum Units for showing to members.

Tours and Demonstrations

1964 41 1963 38

Includes four pruning classes in fall and spring by the Director.

All these figures indicate a continuing upward trend in the number of our visitors and services rendered, which we can certainly expect to continue in the future.

No further developments have taken place at the time of writing with regard to the R. H. Thomson expressway and the Arboretum, on which another hearing by the City Council has still to be held.

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Portland's Hoyt Arboretum

(Continued from Page 6)

only damage the latter but often damage or destroy young planted trees. Another problem confronting the staff is the unauthorized and indiscriminate gathering of tree samples for school projects—a few such forays on a small tree can make it look pretty sick. A third problem which, I imagine, is shared by other tree gardens is the litterbug who leaves a trail of unwanted paraphernalia behind him as he admires the beauties of nature. Still another pest which we hope will disappear in time is the Christmas tree snitcher who, in the past, has deprived future generations of many fine exotic and indigenous specimen trees.

The vagaries of nature are hard to escape as witness the early freeze of 1955 and the more recent Columbus Day storm. Both were very damaging to the arboretum's collection of trees. The '55 freeze destroyed nearly all our semi-tropical trees and also many pines, spruces, cypress, sciadopitys, cryptomeria and podocarpus. Most of the aforementioned have been replaced in the meantime. The Columbus Day storm wrecked havoc in the arboretum, especially among the angiosperms which were in a direct line with the strong winds and mostly unprotected. Damage was mostly caused by the falling towering firs which destroyed hundreds of specimen trees. In the gymnosperm area which was protected by a high ridge, we lost about 50 trees ranging in height from 6 to 80 feet. Again we would like to thank Brian Mulligan for his large donation of fine trees to replace some of those lost in the "Big Wind". The original "primitive" area which was badly damaged by the Columbus Day storm is to be clear-cut this year and the resultant area will be used in expanding our collection of lindens, maples, hawthornes, evonymus, dogwood, ash, Franklinia, cork and sumac trees. Another area to the north will replace the former primitive section. This will be left

in its natural state with few if any improvements.

The use of wooden or aluminum tree tags has proved unsatisfactory and we are now installing permanent (we hope) markers of reinforced concrete. These markers are shaped like a T, and when set in the ground, the T is inverted so it forms a base which is difficult to dislocate. The top is beveled and recessed to hold a plastic name plate upon which is inscribed the common name, the scientific name and the country or section of the United States to which it is native. In a sample test of these markers permanently placed two years ago, the damaged name plates show huge rocks to have been thrown at them and the concrete markers had been damaged by the apparent use of a sledge-hammer.

Some of the future essential projects needed in the arboretum include the widening and building of new trails; the blading and surfacing of most of the present roads; the installation of more directional signs; the removal of hundreds of stumps; the construction of a shelter in the picnic area; the continued expansion of our gymnosperm collection; the removal of more overstory trees and the reconstruction of the rustic fence enclosing the arboretum, especially in those areas adjoining private property. With the completion of these projects, Hoyt Arboretum will be able to take its place among other arboreta in the country.

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Some Recent Rhododendron Hybrids from the Northwest

(Continued from Page 12)

foliage and bud hardy and are attractive in all respects. While this has not to my knowledge received an award, I value it highly and only hope that Mr. Larson can propagate it fast enough to keep up with the demand which should result.

William Whitney, of Brinnon, Washington, has already been mentioned in connection with his 'Anna Rose Whitney'. Among many others he has also produced 'Virginia Richards' (*Wardii*-Betty Robertson × 'F. C. Puddle'). This is a very superior apricot yellow, with large flowers, a good head, and good foliage and habit. Mine seems hardy both as to leaves and buds. His 'Little Gem' ('Carmen' × *Elliotii*) is a fine dwarf red. I have not grown it but sincerely hope it is as durable as those who do tell me it is. Both of these plants received the Preliminary Award in 1962.

Most of the foregoing plants are new, and the ones which may not be are certainly not widely grown. I have tried to select those that are available or that soon should become so. Of course, many more could be mentioned, but this selection should keep you busy and bankrupt for a reasonable time. I hope you will be fortunate with them in your gardens. While you are enjoying them the breeders and your American Rhododendron Society Awards Committee will be producing and selecting more lovelies with which to tantalize you.

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